ADMINISTRATIVE PROCEDURES
(Refer to the 1995 PMO)

Administrative Procedures for Dairy Facilities, Items 2

1. A milking barn, stable or parlor is provided on all dairy farms.

2. Gutters, floors and feed troughs are constructed of good quality concrete or equally impervious material. Floors shall be easily cleaned (brushed surfaces permitted), be graded to drain, maintained in good repair and free of excessive breaks or worn areas that may create pools.

3. Gravity flow manure channels in milking barns, if used, shall be constructed in accordance with the specifications of Appendix B. IV, page p.

4. Stall barns, when used with gutter grates over manure storage pits, are designed and constructed in accordance with the specifications of Appendix B. VI, page.

5. Walls and ceilings are finished with wood, tile, smooth-surfaced concrete, cement plaster, brick or other equivalent materials with light colored surfaces. Walls, partitions, doors, shelves, windows and ceilings shall be kept in good repair, and surfaces shall be refinished whenever wear or discoloration is evident.

Whenever feed is stored overhead, ceilings shall be constructed to prevent the sifting of chaff and dust into the milking barn, stable or parlor. If a hay opening is provided from a loft, which is open into the milking portion of the barn, such openings shall be provided with a dust-tight door which shall be kept closed during milking operations.

6. Bull pens, maternity and calf stalls and horse stalls are partitioned from the milking portion of the barn. Such portions of the barn that are not separated by tight partitions shall comply with all the requirements of this item.

7. Overcrowding is not evidenced by the presence of calves, cows or other barnyard animals in walks or feed alleys. Inadequate ventilation and excessive odors may also be evidence of an overcrowded barn.

8. The milking barn is provided with natural and/or artificial light to insure that all surfaces and particularly the working areas will be plainly visible. The equivalent of at least 10 foot-candles of light in all working areas shall be provided.

9. Air circulation is sufficient to minimize odors and to prevent condensation upon walls and ceilings.

10. A dust-tight partition, provided with doors that are kept closed except when in actual use, shall separate the milking portion of the barn from any feed room or silo in which feed is ground or mixed, or in which sweet feed is stored.

When conditions warrant, the regulatory agency may approve a barn without four walls extending from floor to roof, or a shed-type barn provided the requirement of Item 3r. prohibiting animals and fowl from entering the barn is satisfied. Cattle-housing areas (stables without stanchions, such as loose housing stables, pen stables, resting barns, free stall barns, holding barns, loafing sheds, wandering sheds) may be of shed-type construction, provided no milking is conducted therein. (They are classified as part of the cowyard under Item 4r.)

Comments

Parlor construction - poured concrete walls should be sealed for ease of cleaning and to maintain a light color if the concrete is considered light enough to be acceptable. Otherwise, a light colored finish should be applied. Cold air returns for forced air heating systems should not originate in the parlor or the bathroom if the milk house is tied to the same heating system

Administrative Procedures 4r

1. The cowyard, which is the enclosed or unenclosed area adjacent to the milking barn in which the cows may congregate, including cattle-housing areas and feed lots, is graded and drained, depressions and soggy areas are filled, and cow lanes are reasonably dry.
2. Approaches to the barn door and the surroundings of stock watering and feed stations are solid to the footing of the animals.
3. Wastes from the barn or milk-house are not allowed to pool in the cowyard. Cowyards that are muddy due to recent rains should not be considered as violating this item.
4. Manure, soiled bedding and waste feed are not stored or permitted to accumulate therein in such a manner as to permit the soiling of cow's udders and flanks. Cattle-housing areas (stables without stanchions, such as loose-housing stables, pen stables, resting barns, holding barns, loafing sheds, wandering sheds, free-stall housing) shall be considered as part of the cowyard. Manure packs shall be solid to the footing of the animals (See Appendix B, P.).
5. Cowyards are kept reasonably free of cattle droppings. Cattle droppings shall not be allowed to accumulate in piles that are accessible to the animals.

Administrative Procedure 5r

1. A separate milk house of sufficient size is provided for the cooling, handling and storing of milk and the washing, sanitizing and storing of milk containers and utensils. Except as provided for in Item 12r. of this section.
2. The floors of all milk houses are constructed of good quality concrete (float finish permissible), or equally impervious tile, or brick laid closely with impervious material, or metal surfacing with impervious joints or other material the equivalent of concrete and maintained free of breaks, depressions and surface peelings.
3. The floor slopes to drain so that there are no pools of standing water. The joints between the floor and the walls shall be watertight.
4. The liquid wastes are disposed of in a sanitary manner. All floor drains are accessible and are trapped if connected to a sanitary sewer.
5. Walls and ceilings are constructed of smooth dressed lumber or similar material; well painted with a light-colored washable paint; and are in good repair. Surfaces and joints shall be tight and smooth. Sheet metal, tile, cement block, brick, concrete, cement plaster or similar materials of light color may be used and the surfaces and joints shall be smooth.
6. A minimum of 20 foot-candles of light is provided at all working areas from natural and/or artificial light for milk house operations.
7. Windows and solid doors are closed during dusty weather.
8. The milk house is adequately ventilated to minimize odors and condensation on floors, walls, ceilings and clean utensils.

9. Vents, if installed, and lighting fixtures are installed in a manner to preclude the contamination of bulk milk tanks or clean utensil storage areas.

10. The milk house is used for no other purpose than milk house operations.

11. There is no direct opening into any barn, stable or room used for domestic purposes. Except that an opening between the milk house and milking barn, stable or parlor is permitted when a tight-fitting, self-closing, solid door(s) hinged to be single or double acting is provided. Except that screened vents are permitted in the wall between the milk house and a breezeway, which separates the milk house from the milking parlor, provided animals are not housed within the milking facility.

12. A vestibule, if used, complies with the applicable milk house construction requirements.

13. The transfer of milk from a bulk-holding/cooling tank to a transport tank is through a hose port located in the milk house wall. The port shall be fitted with a tight door, which shall be in good repair. It shall be kept closed except when the port is in use. An easily cleanable surface shall be constructed under the hose port, adjacent to the outside wall and sufficiently large to protect the milk hose from contamination.

14. Water under pressure is piped into the milk house.

15. Each milk house is provided with facilities for heating water in sufficient quantity and to such temperatures for the effective cleaning of all equipment and utensils (See Appendix B, P.).

16. The milk house is equipped with a wash-and-rinse vat having at least two compartments. Each compartment must be of sufficient size to accommodate the largest utensil or container used. The cleaning-in-place vat for milk pipelines and milk machines may be accepted as one part of the two-compartment vat. *Provided*, that the cleaning-in-place station rack, in or on the vat, and the milking machines inflations and appurtenances are completely removed from the vat during the washing, rinsing and/or sanitizing of other utensils and equipment. Where mechanical cleaning/CIP systems eliminate the need for hand washing of equipment, the presence of the second wash vat compartment may be optional, if so determined by the State Regulatory Agency, on an individual farm basis.

17. A suitable shelter is provided for a transportation truck used for cooling and storing milk. Such shelter shall be adjacent to, but not a part of, the milk room and shall comply with the requirements of the milk room with respect to construction, light, drainage, insect and rodent control and general maintenance. See Appendix B, page. for suggested plans and information on size, construction, operation and maintenance of milk houses.

Comment

Bulk tanker storage - on farms that plan on not utilizing a bulk milk tank or milk silo to cool and store the milk, special consideration must be given to some added requirements. First, the cooling capacity must be adequate to cool the milk to 45° F (legal maximum storage temperature) prior to storage on a bulk milk tank truck. A separate structure meeting milk house construction requirement is required for the storage of the bulk milk tanker. Note: some states do not allow this practice of using bulk tanker storage at all, other states that allow the practice require that a sanitary means of agitation of the milk be provided for the bulk tanker, and that a temperature recording device be provided for the bulk tanker. Some states allow the use of a "backup-to-the-milk-house-box-receiver" for the rear end of the tanker instead of a building. In effect, this is bulkheading the tanker. Michigan has not completed formulation of its policy on this subject yet.

Administrative Procedure 7r

1. There is at least one flush toilet connected to a public sewer system or to an individual sewage-disposal system or a chemical toilet, earth pit privy or other type of privy. Such sewage systems shall be constructed and operated in accordance with plans and instructions of the State agency responsible and comply with the standards outlined in Appendix C, page.
2. A toilet or privy is convenient to the milking barn and the milk room. There shall be no evidence of human defecation or urination about the premises.
3. No privy opens directly into the milk room.
4. The toilet room, including all fixtures and facilities, is kept clean and free of flies and odors.
5. Where flush toilets are used, doors to toilet rooms are tight and self-closing. All outer openings in toilet rooms shall be screened or otherwise protected against the entrance of flies.
6. Vents of earth pits are screened.

Administrative Procedures for Wells and Water supply Item 8r

1. The water supply for milk house and milking operations is approved as safe by the State water control authority and, in the case of individual water systems, complies with the specifications outlined in Appendix D, page, and the bacteriological standards outlined in Appendix G, page.
2. No cross-connection exists between a safe water supply and any unsafe or questionable water supply or any other source of pollution.
3. There are no submerged inlets through which a safe water supply may be contaminated.
4. The well or other source of water is located and constructed in such a manner that neither under ground nor surface contamination from any sewerage systems, privy or other source of pollution can reach such water supply.
5. New individual water supplies and water supply systems, which have been repaired or otherwise become contaminated are thoroughly disinfected before being placed in use (See Appendix D, P.). The supply shall be made free of the disinfectant by pumping to waste before any sample for bacteriological testing shall be collected.
6. All containers and tanks used in the transportation of water are sealed and protected from possible contamination. These containers and tanks shall be subjected to a

thorough cleaning and a bacteriological treatment prior to filling with potable water to be used at the dairy farm. To minimize the possibility of contamination of the water during its transfer from the potable tanks to the elevated or ground-water storage at the dairy farm, a suitable pump, hose and fittings shall be provided. When the pump, hose and fittings are not being used, the outlets shall be capped and stored in a suitable dust-proof enclosure so as to prevent their contamination. The storage tank at the dairy farm shall be constructed of impervious material, provided with a dust and rainproof cover and also provided with an approved-type vent and roof hatch. All new reservoirs or reservoirs which have been cleaned shall be disinfected prior to placing them into service (See Appendix D, P.).

7. Samples for bacteriological examination are taken upon the initial approval of the physical structure, based upon the requirements of this *Ordinance*, when any repair or alteration of the water supply system has been made and at least every 3 years. *Provided*, that water supplies with buried well casing seals, installed prior to the adoption of this section, shall be tested at intervals no greater than 6 months apart. Whenever such samples indicate either the presence of bacteria of the coliform group or whenever the well casing, pump or seal need replacing or repair, the well casing and seal shall be brought above the ground surface and shall comply with all other applicable construction criteria of this section. *Provided*, that when water is hauled to the dairy farm, such water shall be sampled for bacteriological examination at the point of use and submitted to a laboratory each month. Bacteriological examinations shall be conducted in a laboratory acceptable to the regulatory agency. To determine if water samples have been taken at the frequency established in this section, the interval shall include the designated period plus the remaining days of the month in which the sample is due.

8. Current records of water test results shall be retained on file with the regulatory agency or as the regulatory agency directs.

Comments

High Pressure washers - an approved style vacuum breaker such as the Watts 36N located on the inlet line at least 18 inches above the inlet
or draw water for the washer from an isolated vessel such as a wash vat, poly tank, or a float controlled reservoir (isolated from the milk house well water supply by an air gap or backflow device in the water supply or from a separate well).

Grey water tanks - isolate the tank from the well water supply if there is a fresh water make up line to the grey water. Note: We recommend that the first rinse of the milk line not be discharged to the grey water tank if it is to be used to wash the parlor down. Because of odor problems from the milk solids, many states do not allow the first rinse to be used for grey water.

Vertical and horizontal wash vats - isolate the well water supply from the vat by means of an air gap or approved backflow device. Also isolate the chemical supply from the water supply if the chemical containers are more than one gallon in size. If the vertical vat is used as a milk receiver, it must be isolated physically from the water and chemical supply during milking. If the vertical vat is under a vacuum during milking, any lines connected to it that submerge in the horizontal wash vat (such as an overflow line or pre wash diverter line), must be disconnected during milking.

Reclaimed/recirculated water - water that is "reclaimed" from a plate cooler or similar system must have backflow prevention or an air break prior to discharge to a cattle tank or similar vessel. It is recommended that the backflow device, such as a Watts 9D or 900 series atmospheric backflow preventer be located upstream of the plate cooler. Many states and the Dairy Practices Council require that a backflow device be located upstream of all plate coolers. Michigan currently does not require this on all plate coolers. "Recirculated" water that may be used in a refrigerated plate cooler system (chill or sweet water) or that may be used as hot water to keep the CIP solution hot via the plate cooler during CIP needs to be sampled for coliform semiannually. A means should be provided to allow access to the water for easy sampling.

Boiler water makeup - provide well water isolation from boiler water makeup and boiler chemical add systems.

Administrative Procedure 9r

1. All multi-use containers, equipment and utensils, which are exposed to milk or milk products, or from which liquids may drip, drain or be drawn into milk or milk products, are made of smooth impervious, nonabsorbent, safe materials of the following types:
    a. Stainless steel of the ANSI (American Iron and Steel Institute) 300 series; or
    b. Equally corrosion-resistant, nontoxic metal; or
    c. Heat-resistant glass; or
    d. Plastic or rubber and rubber-like materials which are relatively inert, resistant to scratching, scoring, decomposition, crazing, chipping and distortion, under normal use conditions; are nontoxic, fat resistant, relatively nonabsorbent, relatively insoluble, do not release component chemicals or impart flavor or odor to the product; and which maintain their original properties under repeated use conditions.
2. Single-service articles have been manufactured, packaged, transported and handled in a sanitary manner and comply with the applicable requirements of Item 11p.
3. Articles intended for single-service use are not reused.
4. All containers, equipment and utensils are free of breaks and corrosion.
5. All joints in such containers, equipment and utensils are smooth and free from pits, cracks or inclusions.

6. Cleaned-in-place milk pipelines and return-solution lines are self-draining. If gaskets are used, they shall be self-positioning and of material meeting specifications described in 1. d. above, and shall be of such design, finish and application as to form a smooth, flush, interior surface. If gaskets are not used, all fittings shall have self-positioning faces designed to form a smooth, flush, interior surface. All interior surfaces of welded joints in pipelines shall be smooth and free of pits, cracks and inclusions.

7. Detailed plans for cleaned-in-place pipeline systems are submitted to the regulatory agency for written approval prior to installation. No alteration or addition shall be made to any milk pipeline system without prior written approval of the regulatory agency.

8. Strainers, if used, are of perforated metal design, or so constructed as to utilize single-service strainer media.

9. Seamless hooded pails having an opening not exceeding one-third the area of that of an open pail of the same size are used for hand milking and hand stripping.

10. All milking machines, including heads, milk claws, milk tubing and other milk-contact surfaces can be easily cleaned and inspected. Pipelines, milking equipment and appurtenances, which require a screwdriver or special tool shall be considered easily accessible for inspection, providing the necessary tools are available at the milk house.

11. Milk cans have umbrella-type lids.

12. Farm holding/cooling tanks, welded sanitary piping and transportation tanks comply with the applicable requirements of Items 10p and 11p of this section.

Comments

Check the milk line for proper slope and adequate inspection ports. Every straight section should be accessible for inspection, and long straight sections should have one or two couplings that allow for inspection of the middle area.

Air blow for milk line - in some installations compressed air is used to blow milk from the milk line at the completion of milking. A filter and check valve system is required that meets 3A Standards. They are commonly used in most dairy plants. A diagram can be found in PMO appendix H, section II.

Administrative Procedure 14r

1. Equipment and operations are so located within the milking barn and milk house as to prevent overcrowding and contamination of cleaned and sanitized containers, equipment and utensils by splash, condensation or manual contact.

2. During processing, pipelines and equipment, used to contain or conduct milk and milk products, shall be effectively separated from tanks or circuits containing cleaning and/or sanitizing solutions.

3. All milk that has overflowed, leaked, been spilled or improperly handled is discarded.

4. All product-contact surfaces of containers, equipment and utensils are covered or otherwise protected to prevent the access of insects, dust, condensation and other contamination. All openings, including valves and piping attached to milk storage and transport tanks, pumps or vats, shall be capped or otherwise properly protected. Gravity type strainers used in the milk house do not have to be covered. Milk pipelines used to convey milk from pre-coolers to the farm bulk tank must be fitted with effective drip deflectors.

5. The receiving receptacle is raised above the floor (as on a dolly or cart), or placed at a distance from the cows, to protect it against manure and splash when milk is poured and/or strained in the milking. Such receptacle shall have a tight-fitting cover, which shall be closed except when milk is being poured.

6. Each pail or container of milk is transferred immediately from the milking barn, stable or parlor to the milk house.

7. Pails, cans and other equipment containing milk are properly covered during transfer and storage.

8. Whenever air under pressure is used for the agitation or movement of milk, or is directed at a milk-contact surface, it is free of oil, dust, rust, excessive moisture, extraneous materials and odor, and shall otherwise comply with the applicable standards of Appendix H, page.

9. Sanitized product-contact surfaces, including farm cooling holding tank openings and outlets, are protected against contact with unsanitized equipment and utensils, hands, clothing, splash, condensation and other sources of contamination.

10. Any sanitized product-contact surface, which has been otherwise exposed to contamination, is again cleaned and sanitized before being used.

11. Vehicles used to transport milk from the dairy farm to the milk plant, receiving station or transfer station are constructed and operated to protect their contents from sun, freezing and contamination.

12. Vehicles have bodies with solid enclosures and tight, solid doors.

13. Vehicles are kept clean, inside and out.

14. No substance capable of contaminating milk is transported with the milk.

Administrative Procedure 16r

1. Hand-washing facilities are located convenient to the milk house, milking barn, stable, parlor and flush toilet.

2. Hand-washing facilities include soap or detergent, running water, individual sanitary towels and a lavatory fixture. Utensil wash and rinse vats shall not be considered as hand-washing facilities.

Administrative Procedure 18r

1. Raw milk for pasteurization is cooled to 7^{o}C (45^{o}F) or less within 2 hours after milking *provided* that the blend temperature after the first milking and subsequent milkings does not exceed 10^{o}C (50^{o}F).

2. Recirculated cold water, which is used in plate or tubular coolers or heat exchangers, is from a safe source and protected from contamination. Such water shall be tested semiannually and shall comply with the bacteriological standards of Appendix G, page.

Comment

Milk cooling capacity - determine milk cooling requirements (BTU's of heat to be removed) and make sure that the cooling system capacity is adequate to meet the needs. Special care should be taken on large farms that milk for long periods of time to make sure that the milk is cooled rapidly. While the legal requirement is 50° F or less within two hours of completing the first milking, this is not satisfactory on farms that may milk for more than four hours.

Administrative Procedure 19r

1. Surroundings are kept neat, clean and free of conditions, which might harbor or be conducive to the breeding of insects and rodents. During fly season, manure shall be spread directly on the fields; or stored for not more than 4 days in a pile on the ground surface and then spread on the fields; or stored for not more than 7 days in a impervious-floored bin, or on an impervious-curbed platform and then spread; or stored in a tight-screened and trapped manure shed; or effectively treated with larvicides; or disposed of in any other manner which controls insect breeding.
2. Manure packs in loafing areas, stables without stanchions, pen stables, resting barns, wandering sheds and free-stall housing are properly bedded and managed to prevent fly breeding.
3. Milk rooms are free of insects and rodents.
4. Milk rooms are effectively screened or otherwise protected against the entrance of vermin.
5. Outer milk house doors are tight and self-closing. Screen doors shall open outward.
6. Effective measures are taken to prevent the contamination of milk, containers, utensils and equipment by insects and rodents and by chemicals used to control such vermin. Insecticides and rodenticides, not approved for use in the milk house, shall not be stored in the milk house.
7. Only insecticides and rodenticides approved for use by the regulatory agency and/or registered with the U.S. Environmental Protection Agency, are used for insect and rodent control. (See Appendix B, P. , for further information about insect and rodent control.)
8. Insecticides and rodenticides are used only in accordance with manufacturer's label directions and are used so as to prevent the contamination of milk, milk containers, equipment, utensils, feed and water.
9. Have covered boxes, bins or separate storage facilities for ground, chopped or concentrated feed.
10. Feed may be stored in the milking portion of the barn only in such a manner as will not attract birds, flies or rodents. Open feed dollies or carts may be used for distributing the feed, but not storing feed, in the milking barn.